

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7070

Petition of Central Vermont Public Service Corporation)
for a waiver, under 30 V.S.A. § 248(k)(1), of the)
prohibition upon site preparation for and construction of)
an electric transmission facility in order to replace a)
failed CVPS Thetford substation transformer with an)
existing transformer from the CVPS Manchester)
substation to assure the reliability and stability of the)
electric system)

Hearing at
Montpelier, Vermont
May 17, 2005

Order entered: 5/20/2005

PRESENT: Edward McNamara, Hearing Officer

APPEARANCES: Geoffrey Commons, Esq.
for Vermont Department of Public Service

Kenneth C. Picton, Esq.
for Central Vermont Public Service Corporation name

I. INTRODUCTION

On May 13, 2005, the Vermont Public Service Board ("Board") received a petition pursuant to 30 V.S.A. § 248(k) from Central Vermont Public Service Corporation ("CVPS"), seeking a waiver, for a period not to exceed one year, of Section 248's general prohibition against site preparation and construction of electric transmission facilities without Board pre-approval.¹ Copies of the petition were provided by CVPS to the Department of Public Service ("Department" or "DPS") and the Agency of Natural Resources ("ANR") by electronic mail and overnight delivery. The subjects of the requested waiver are:

1. In its petition, CVPS requested that the Board initially determine whether each project on its own constitutes replacement of existing facilities with equivalent facilities in the usual course of business under 30 V.S.A. § 248(a)(2), and therefore would require no certificate of public good. Petition at 2, 3. At the hearing, CVPS waived this request and stated that following a permit issued under 30 V.S.A. § 248(k), it would file a petition under 30 V.S.A. § 248(j) for each project. Tr. 5/17/05 at 60 (Picton).

(a) Replacement of a recently-failed 3,750 kVA transformer at CVPS' Thetford substation with a 5,000 kVA transformer to be removed from service at CVPS' Manchester substation (the Thetford substation is currently being operated with a portable transformer); and

(b) Replacement of an existing 7.5 MVA transformer at CVPS' Manchester substation, with a 10 MVA transformer, and the replacement of an existing 5,000 kVA transformer with the existing 7.5 MVA unit (which makes available the 5,000 kVA transformer needed for the Thetford site).

On May 13, 2005, the petition was served on the governmental bodies required to receive notice pursuant to 30 V.S.A. § 248 (a)(4)(C). The Board appointed me as Hearing Officer to conduct the preliminary hearing on the request for a waiver, and to prepare a Proposal for Decision in this Docket. An expedited preliminary hearing was held as scheduled on May 17, 2005, after providing notice to the petitioner and governmental bodies specified in subsection (a)(4)(C) of 30 V.S.A. § 248. At the hearing, CVPS presented evidence in support of its request for a waiver. The ANR filed a letter, dated May 16, 2005, stating that it believed CVPS' petition did not raise significant concerns with respect to the criteria of Section 248(b)(5) and that the ANR would not attend the hearing.² On May 19, 2005, CVPS and the DPS jointly filed a draft proposal for decision and waived the opportunity to comment on this Proposal for Decision in accordance with 3 V.S.A. § 811.

II. FINDINGS

Based on the evidence of record and the testimony presented at the preliminary hearing, I hereby report the following findings to the Board in accordance with 30 V.S.A. § 8.

1. CVPS owns and operates a substation in Thetford, Vermont. The substation has one 3,750/4,685 kVA transformer, which failed on April 24, 2005. Although the specific cause of the failure is not known CVPS believes the internal transformer failure was likely a mechanical problem. The transformer had experienced recent winter overloads, but only during 1% of its

2. I conclude from ANR's letter that the issuance of this Proposal for Decision is not contrary to its interests and consequently, that ANR does not require a comment period for the Proposal for Decision.

operation. CVPS routinely tests its transformers, and monitors overloading circumstances. The failed Thetford transformer was most recently tested in March, 2005, and no problems were evident at that time. Petition at 1, 2; tr. 5/17/05 at 7, 19-20, and 49 (Jones); exhs. CVPS 1 and 2.

2. After the transformer failed, CVPS moved its 3,750 kVA portable transformer to maintain operation of the Thetford substation. CVPS anticipates the portable transformer will be overloaded in approximately 30 days due to anticipated summer loads consistently exceeding its maximum rating. Such overloading will be dependent upon weather and other conditions; however, CVPS has already recorded loads during the first week of May, 2005 at 4,092 kVA. The portable transformer is not thermally rated and is not constructed to exceed 3,750 kVA loads. The portable transformer does not have a forced-air cooling system, and therefore cannot withstand the occasional overloads previously experienced by the failed transformer. Petition at 2; tr. 5/17/05 at 8-9 (Jones).

3. CVPS has no 3,750 kVA or 5,000 kVA spare transformers to install at Thetford. CVPS' only other portable transformer is rated at 15 MVA. However, because 15 MVA of capacity is not needed at Thetford, it does not make sense for CVPS to tie up its only large portable transformer at the Thetford substation. CVPS has not yet received delivery of its new 20 MVA portable transformer; delivery is expected in July, 2005. Petition at 2; tr. 5/17/05 at 26 (Jones).

4. The 3,750 kVA portable transformer is needed for planned maintenance and future contingencies. While this portable transformer is in use at Thetford, it cannot be used to mitigate any other failures which could occur or to permit other necessary planned maintenance work, thus further adversely implicating system reliability. Petition at 2.

5. In light of these facts, CVPS believes it is necessary and appropriate to replace, in an expeditious manner, the failed 3,750 kVA transformer (and make available the portable 3,750 kVA transformer) by using an existing 5,000 kVA transformer, which can be obtained by replacements at the Manchester substation. Petition at 2.

6. The CVPS substation in Manchester was originally constructed in 1944. The 5,000 kVA transformer was installed at the Manchester substation in 1967 and CVPS's engineers believe that the transformer has not reached the end of its useful life. CVPS is undertaking a

study of the potential relocation and/or rebuild in place of the substation. CVPS expects that study to be completed in 1-2 years, at which time CVPS plans on filing for approval under 30 V.S.A. § 248 for such relocation or rebuild. In the interim, for reliability purposes, CVPS anticipated replacing one of two existing 46 kV transformers; the project would replace an existing 7.5 MVA transformer with a 10 MVA transformer presently owned by CVPS, and use that 7.5 MVA transformer in the place of an existing 5,000 kVA transformer. These transformers have in the past served as backup to one another during contingencies. Petition at 2; tr. 5/17/05 at 17-18, 31-33 (Jones).

7. The failure at the Thetford substation raises the need to expedite this project before the 2005 summer peak season. By accomplishing this project immediately, the existing 5,000 kVA transformer could be moved to Thetford, thus relieving the emergency situation at Thetford and making the portable transformer available for other contingencies. Accomplishing this project at Manchester will also enhance system reliability in that service area. Petition at 2; tr. 5/17/05 at 33, 47-48 (Jones).

8. At the hearing, CVPS also stated that the Manchester substation transformer project also requires the replacement of the present 328 ampere regulators with 437 ampere regulators on the Manchester 13 circuit. This additional work would take place entirely within the substation. CVPS accordingly requested that the replacement of these regulators be included in the approvals sought in this docket. Tr. 5/17/05 at 12-13 (Jones).

9. Both the Thetford and Manchester projects would be accomplished within the existing substations and would use the existing foundations and pads for the transformers. CVPS believes the present oil containment risk at both substations remains essentially the same, and is not anticipating additional oil containment work during these projects. Installing an oil containment system during these projects would require removal and replacement of the existing foundations. CVPS will discuss oil containment options in its future filings under 30 V.S.A. § 248(j) for these projects. Petition at 2; tr. 5/17/05 at 29 (Upton), 66 (Upton, Picton).

10. In order to complete this work prior to the summer peak season, when loads at Thetford could exceed the rating of the portable transformer, and when the portable transformer may well be needed for other contingencies as well as planned maintenance, CVPS would prefer

to begin the work in Manchester by May 23, 2005, and anticipates the complete exchange project, including installation of the 5 MVA transformer at Thetford, would take approximately three weeks. Petition at 3.

11. Neither project involves an expansion of the particular substation's footprint or any out-of-lot or right-of-way alterations. At the hearing, CVPS discussed each criterion under 30 V.S.A. § 248, and the testimony supported the conclusion that, upon preliminary review, there do not appear to be any significant adverse impacts under the criteria contained in subdivisions (b)(5) and (8) of 30 V.S.A. § 248. Petition at 2; tr. 5/17/05 at 34-47 (Upton, Jones).

12. The testimony by CVPS supported that the April 24, 2005, failure of the Thetford transformer has created an emergency situation under Section 248(k)(4)(A), that a waiver is necessary to provide adequate and efficient service under subdivision (k)(4)(B), that the activities will not create significant adverse impacts under the review criteria contained in subdivisions (b)(5) and (8), and that the activities will promote the general good of the state under subdivision (k)(4)(C). Tr. 5/17/05 generally (Upton, Jones).

13. The Department supported CVPS' request for approval of the project as described in its petition. Tr. 5/17/05 at 58, 62 (Commons).

III. DISCUSSION

The evidence presented in the petition and at the preliminary hearing demonstrates that the criteria for Section 248(k) have been met for issuance of the requested waiver for: (a) the replacement of a recently-failed 3,750 kVA transformer at CVPS' Thetford substation with a 5,000 kVA transformer to be removed from service at CVPS' Manchester substation; (b) the replacement of an existing 7.5 MVA transformer at CVPS' Manchester substation with a 10 MVA transformer; (c) the replacement of an existing 5,000 kVA transformer with the existing 7.5 MVA unit (which makes available the 5,000 kVA transformer needed for the Thetford site); and (d) the replacement of the present 328 ampere regulators with 437 ampere regulators on the Manchester 13 circuit. Specifically, the evidence shows that the failure of the Thetford 3,750 kVA transformer constitutes an emergency situation and that the use of the existing 5 MVA

transformer from the Manchester substation to replace the failed transformer is the best available alternative to remedy this situation.

The work on the Manchester substation, by itself, would not qualify for a waiver pursuant to Section 248(k). However, the evidence that CVPS presented at the hearing indicates that it is not possible to obtain a similarly sized transformer from another source besides one of its own substations. Given that such action is necessary, the best option available to CVPS is to remove the 5,000 kVA transformer from its Manchester substation. Consequently, it is necessary to perform the work that CVPS requests at the Manchester substation. I conclude that a waiver pursuant to Section 248(k) is necessary to provide adequate and efficient service, and that the waiver will promote the general good of the state.

IV. CONCLUSION

For the reasons stated above, I recommend that the Board grant the requested waiver of the prohibition against site preparation and construction of electric transmission facilities for:

- (a) the replacement of a recently-failed 3,750 kVA transformer at CVPS' Thetford substation with a 5,000 kVA transformer to be removed from service at CVPS' Manchester substation;
- (b) the replacement of an existing 7.5 MVA transformer at CVPS' Manchester substation, with a 10 MVA transformer;
- (c) the replacement of an existing 5,000 kVA transformer with the existing 7.5 MVA unit (which makes available the 5,000 kVA transformer needed for the Thetford site);
- and (d) the replacement of the present 328 ampere regulators with 437 ampere regulators on the Manchester 13 circuit.

I further recommend that the Board include in the waiver the conditions set forth in the attached proposed Order.

Dated at Montpelier, Vermont, this 20th day of May, 2005.

s/ Edward McNamara
Edward McNamara, Esq.
Hearing Officer

V. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that:

1. The Hearing Officer's Findings, conclusion and recommendations are adopted.
2. Pursuant to 30 V.S.A. § 248(k), the prohibition of 30 V.S.A. § 248(a)(2) against site preparation for, and the construction necessary for: (a) the replacement of a recently-failed 3,750 kVA transformer at CVPS' Thetford substation with a 5,000 kVA transformer to be removed from service at CVPS' Manchester substation; (b) the replacement of an existing 7.5 MVA transformer at CVPS' Manchester substation, with a 10 MVA transformer; (c) the replacement of an existing 5,000 kVA transformer with the existing 7.5 MVA unit (which makes available the 5,000 kVA transformer needed for the Thetford site); and (d) the replacement of the present 328 ampere regulators with 437 ampere regulators on the Manchester 13 circuit by Central Vermont Public Service Corporation prior to the issuance of a certificate of public good, is waived, subject to the following conditions.
 3. The replacement of the failed transformer at the Thetford substation and the replacements of the transformers and regulators at the Manchester substation shall be accomplished in accordance with the testimony submitted by the petitioner in this proceeding.
 4. CVPS shall ensure that construction at the sites and disposal of any debris (including the failed transformer) shall be in accordance with all applicable regulations.
 5. CVPS shall file, within 30 days of this Order, petitions for certificates of public good authorizing the permanent replacement of a recently-failed 3,750 kVA transformer at CVPS' Thetford substation with a 5,000 kVA transformer to be removed from service at CVPS' Manchester substation, replacement of an existing 7.5 MVA transformer at CVPS' Manchester substation, with a 10 MVA transformer, the replacement of an existing 5,000 kVA transformer with the existing 7.5 MVA unit (which makes available the 5,000 kVA transformer needed for the Thetford site), and the replacement of the present 328 ampere regulators with 437 ampere regulators on the Manchester 13 circuit. In such petitions, CVPS shall address oil containment options.

Dated at Montpelier, Vermont, this 20th day of May, 2005.

<u>s/ James Volz</u>)	
)	PUBLIC SERVICE
)	
<u>s/ David C. Coen</u>)	BOARD
)	
)	OF VERMONT
<u>s/ John D. Burke</u>)	

OFFICE OF THE CLERK

FILED: May 20, 2005

ATTEST: s/ Susan M. Hudson
Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.